Healthcare Solutions
Nuance Dragon Medical One
Nuance PowerMic Mobile
Nuance PowerMic III
Nuance EHR Services

Case Study

Voice-driven solutions make it easier to document care within Epic EHR.

Nuance Dragon Medical One improves physician speed, mobility, and satisfaction at The University of Kansas Health System

Challenge
– Alleviate physician burnout
– Speed documentation within Epic EHR
– Increase physician mobility
– Overcome aversion to speech recognition

Solution
– Nuance® Dragon® Medical One
– PowerMic™ Mobile
– PowerMic III
– Nuance EHR Services

Results
– Three-year phased goal of 450 license deployments surpassed in less than three months, plus additional 250 licenses purchased
– 95% of health system physicians surveyed believe Dragon Medical One makes it easier to document within the EHR
– Improved documentation quality

Summary

The University of Kansas Health System is a world-class academic medical center and destination for complex patient care and diagnosis. More than 1,800 physicians work as both researchers and educators to promote the health and well-being of all people and create a more satisfying patient experience.

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KANSAS HEALTH SYSTEM

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2

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> Dr. Greg Ator
> Chief Medical Information Officer
> The University of Kansas Health System

In a perpetual quest to help physicians not only take better care of their patients but also take care of themselves, University of Kansas Health System Chief Medical Information Officer (CMIO) Dr. Greg Ator seeks intelligent solutions that allow for richer, more engaging patient interactions. Physicians were eager to spend less time closing their patient notes in the Epic electronic health record (EHR) platform and wanted the flexibility to work from any workstation on the health system network or from home. Dr. Ator looked to voice-driven technologies to help physicians work effectively, but not be intrusive. Within three months, 573 physicians were using Dragon Medical One—quickly creating documentation with greater mobility—surpassing their three-year deployment goal in less than three months

The search for innovative solutions
As a technology champion at The University of Kansas Health System, Dr. Ator understands the right tools can ease a clinician's growing documentation burden. "I think we're all concerned about physician burnout," he explains. "Physicians are asked to do a lot of things these days, and those are not all perceived as value-added. We start seeing burnout because activities like dictating patient notes is bleeding into family time, so work-life balance is suffering. We need to find solutions that alleviate this challenge."

Dr. Ator looked to clinical decision support and artificial intelligence (AI) to improve the decisions physicians make every day. "If you're trying to transcribe patient interactions in real time, you get in this cycle of talk, type, and listen; frankly, we as humans are not great at that," says Dr. Ator. "The engagement of artificial intelligence gets back to the key concept that doctors are all about decisions, and giving physicians the support they need to make the best possible clinical decisions.

AI can help us look at different sources of data we can't access on our own, and it's exciting to see the pace of innovation accelerating in this space." The health system began testing a variety of speech recognition solutions, including several local providers, but only Nuance could provide the desired capabilities and the level of integration and embedded workflows with Epic that were important. The next step was a head-to-head comparison between Dragon Medical One and their legacy vendor.

Physician-led pilots lead health system to implement Nuance over competing solutions
A steering committee comprising physicians, clinicians, and team members from Health Information Management (HIM) and informatics created two pilot groups of 20 physicians from a wide range of specialties. One group was assigned Dragon Medical One, and the second group was assigned a competing product. "We wanted to avoid deploying a lot of hardware and microphones, so we used the available smartphone technology for this test," says Dr. Ator. "The competing solution had issues with both Android and Apple devices, whereas Nuance's PowerMic Mobile application worked well." Unlike the competition, Dragon Medical One's true cloud-based platform requires zero voice profile training, provides automatic microphone calibration, intelligently detects accents, and allows seamless switching between devices and microphones—both physical and virtual—without degrading speech recognition accuracy or system performance.

Over the course of a month, each group of physicians tested its assigned solution, and then switched solutions for the second month of the program. Throughout, pre- and post-evaluations were performed with the pilot groups and steering committee to discuss everyone's

3

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experience, gathering numerous data points for both qualitative and quantitative metrics.

For example, physicians evaluated both solutions for their ability to capture patient stories, improve documentation quality, complete documents in a timely manner, and enable a better experience within the Epic workflow. "We carefully reviewed everyone's input, and in the end, it was quite clear that Nuance did a superior job by providing a better overall experience and the technical responsiveness that our teams demand," says Dr. Ator. "It was a clear choice for us." Nuance effectively demonstrated an ability to deliver and provide real outcomes, and a strategic alignment with Epic meant trainers certified in both Epic and Dragon Medical could effectively optimize the physician's experience. In addition, The University of Kansas Health System had years of proven success with another Nuance solution, PowerScribe® 360 Reporting, the industry's most trusted and widely used real-time radiology reporting platform, ranked #1 for Speech Recognition Front-End Imaging in 2017 Best in KLAS Report.

The health system implemented a comprehensive range of Nuance AI-enabled solutions, including:

– **Dragon Medical One** for documenting care in Epic and beyond with the industry-leading cloud-based speech platform

– **PowerMic Mobile** to turn any smartphone into a secure wireless microphone

– **PowerMic III** for high-quality audio input through a USB-based dictation microphone
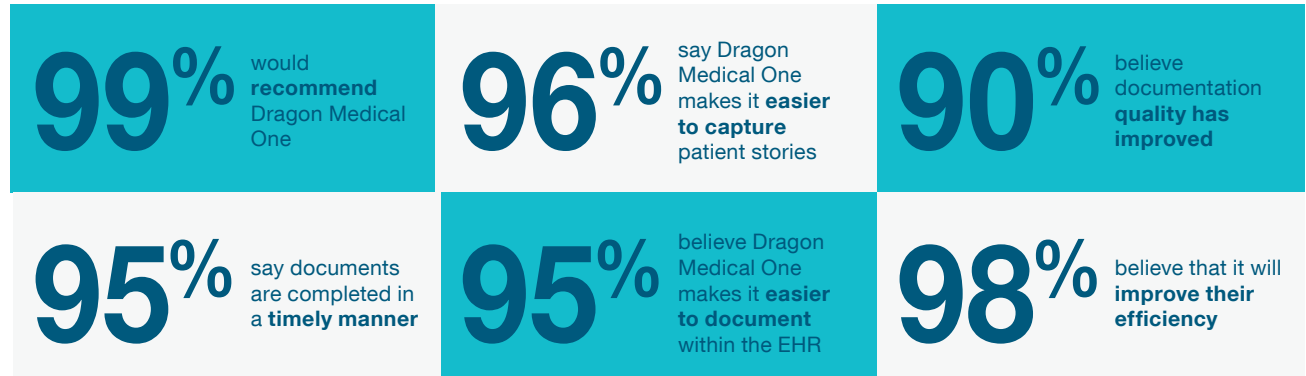
Rapid adoption by physicians
Dr. Ator planned a multiyear, phased approach to rolling out Dragon Medical One. Initial plans were to roll out 250 users in year one, 100 additional users in year two, and 100 more users in year three; he notes that they started by targeting the physicians who used the prior solution most.

Satisfaction was so high among this first group of physicians that the word spread quickly. Within six weeks of the first Dragon Medical One training session, all 250 users in the first group were up and running, so the solution was rolled out to the next 200 users, which had been planned for years two and three, and then acquired another 250 licenses to support the overwhelming demand and rapid adoption. In June 2017 a full enterprise-wide site license for Dragon Medical One was signed.

At the start of the pilot program, physicians expressed some reservations about speech recognition because of their experience with legacy solutions. There were some concerns that the need to correct notes would become cumbersome. "But it just works," Dr. Ator explains. "Accuracy is high with minimal training, and it's quite remarkable. For a long time, we've been looking for ways to make it easy to get the information into the EHR and move beyond the keyboard. We need solutions that do more than just replace our fingers, and we have found that with Nuance solutions."

Additionally, the bilateral relationship between Nuance solutions and Epic EHR has proven to be a key factor in the rapid adoption rate. "The ability to have embedded commands and keyword shortcuts in Epic has been

4

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Post-implementation survey results: by the numbers

99% would **recommend** Dragon Medical One	**96%** say Dragon Medical One makes it **easier to capture** patient stories	**90%** believe documentation **quality has improved**
95% say documents are completed in a **timely manner**	**95%** believe Dragon Medical One makes it **easier to document** within the EHR	**98%** believe that it will **improve their efficiency**

significant," Dr. Ator says. "I can conceive of a time when we would have even deeper levels of integration than we do today, too."

99% of physicians surveyed would recommend Dragon Medical One
With the rapid adoption of Nuance solutions at the health system, the team wanted to measure the value and satisfaction Dragon Medical One was delivering. A survey of 409 physicians found that 99% of them would recommend Dragon Medical One to their peers. In addition, the survey revealed that:

– 96% say Dragon Medical One makes it easier to capture patient stories

– 90% believe documentation quality has improved

– 95% say documents are completed in a timely manner

– 95% believe Dragon Medical One makes it easier to document within the EHR

With respect to training, 98% of the surveyed physicians believe that it will improve their efficiency. Survey comments included those of cardiologist Dr. Steven Owen, who noted: "I completed my Dragon training last week and have been absolutely delighted with it. I'm using it for clinic dictation this week. Great addition! Thanks!"

"As I reflect on my time as CMIO," says Dr. Ator, "I can think of very few, if any, projects that have elicited universal kind words. Typically, you have a mix of people who love the new solution and others who actively hate it,

but most have no idea what you're talking about. With the Nuance rollout, however, people are universally happy. We are seeing an unprecedented level of interest in the classes, and people want to be trained. That speaks to the level of support and how well it's working for us."

Powerful paradigm for the future
At the core, The University of Kansas Health System was ready for clinical documentation improvement solutions that helped physicians take care of both their patients and themselves. "I'm seeing Nuance as increasingly critical to our wheelhouse of solutions," says Dr. Ator. "I believe the combination of verbal interaction, industry-leading speech recognition technology, and artificial intelligence is creating a powerful paradigm for the future. In fact, I believe we're entering an interesting phase of digitalization, where technologies will allow us to do much more than simply file our notes; we are truly in a position where we can leverage technology to make better decisions that lead to better patient outcomes."

This innovation will help organizations like The University of Kansas Health System get back to the basics of healthcare. From physician satisfaction with their work-life balance to a positive impact on patient outcomes, they have the foundation for a strong, long-term relationship with Nuance.

To learn more about how Nuance Healthcare can improve financial performance, raise the quality of care, and increase clinician satisfaction, please contact us at 1-877-805-5902 or visit www.nuance.com/healthcare.

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